

**Data sheet | Item number: 2086-1109**

THR PCB terminal block; push-button; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 9-pole;  
Push-in CAGE CLAMP®; 1,50 mm<sup>2</sup>; black



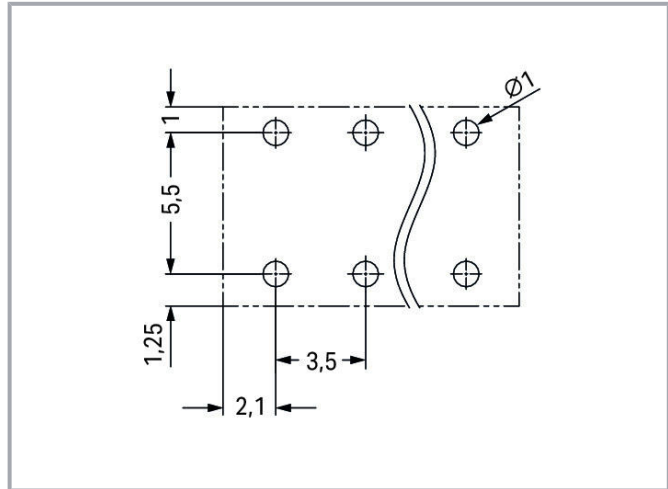
[www.wago.com/2086-1109](http://www.wago.com/2086-1109)



Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at (262) 255-6222 or 1 800-DIN-RAIL.



Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 4.2 \text{ mm}$

## Item description

- Ideal for compact device connection, panel feedthrough and tight spaces
- Push-in CAGE CLAMP® allows push-in termination of solid and fine-stranded conductors with ferrules
- SMD and THR variants available
- Delivery in tape-and-reel packaging for full integration into SMT soldering process
- Push-button moves in direction of conductor connection
- Conductor connection and mating direction both parallel and perpendicular to the PCB
- Choice of double pin spacing or alternating pin spacing, 3.5 and 5 mm pin spacing

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at (262) 255-6222 or 1 800-DIN-RAIL.



## Data

### Electrical data

#### IEC Approvals

|                             |   |
|-----------------------------|---|
| Ratings per                 | IEC/EN 60664-1  |
| Rated voltage (III / 3)     | 160 V   |
| Rated surge voltage (III/3) | 2.5 kV  |
| Rated voltage (III/2)       | 160 V   |
| Rated surge voltage (III/2) | 2.5 kV  |
| Nominal voltage (II/2)      | 320 V   |
| Rated surge voltage (II/2)  | 2.5 kV  |
| Rated current               | 17.5 A  |
| Legend (ratings)            | (III / 2) $\hat{=}$ Overvoltage category III / Pollution degree 2 |

#### UL Approvals

|                                |         |
|--------------------------------|---------|
| Approvals per                  | UL 1059 |
| Rated voltage UL (Use Group B) | 300 V   |
| Rated current UL (Use Group B) | 10 A    |
| Rated voltage UL (Use Group C) | 300 V   |
| Rated current UL (Use Group C) | 10 A    |
| Rated voltage UL (Use Group D) | 300 V   |
| Rated current UL (Use Group D) | 10 A    |

#### CSA Approvals

|                                 |       |
|---------------------------------|-------|
| Approvals per                   | CSA   |
| Rated voltage CSA (Use Group B) | 300 V |
| Rated current CSA (Use Group B) | 10 A  |
| Rated voltage CSA (Use Group D) | 300 V |
| Rated current CSA (Use Group D) | 10 A  |

#### Connection data

|                            |   |
|----------------------------|---|
| Total number of potentials | 9 |
| Number of connection types | 1 |
| Number of levels           | 1 |

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
 Germantown, WI 53022  
 Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
 Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
 We are always happy to take your call at (262) 255-6222 or 1 800-DIN-RAIL.



## Connection 1

|   |  |
|---|--|
| Connection technology                             | Push-in CAGE CLAMP®                          |
| Actuation type                                    | Push-button                                  |
| Solid conductor                                   | 0.14 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG |
| Fine-stranded conductor                           | 0.14 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG |
| Fine-stranded conductor; with insulated ferrule   | 0.25 ... 0.75 mm <sup>2</sup>                |
| Fine-stranded conductor; with uninsulated ferrule | 0.25 ... 1.5 mm <sup>2</sup>                 |
| Strip length                                      | 8 ... 9 mm / 0.31 ... 0.35 inch              |
| Conductor connection direction to PCB             | 90°  |
| Number of poles                                   | 9  |

## Physical data

|                                    |                        |
|------------------------------------|------------------------|
| Pin spacing                        | 3.5 mm / 0.138 inch    |
| Width                              | 32.2 mm / 1.268 inch   |
| Height                             | 16 mm / 0.63 inch      |
| Height from the surface            | 13.6 mm / 0.535 inch   |
| Depth                              | 7.8 mm / 0.307 inch    |
| Solder pin length                  | 2.4 mm                 |
| Solder pin dimensions              | 0.3 x 0.8 mm           |
| Plated through-hole diameter (THR) | 1 <sup>(+0.1)</sup> mm |

## PCB contact

|                                     |  |
|-------------------------------------|--|
| PCB Contact                         | THR                                      |
| Solder pin arrangement              | over the entire terminal strip (in-line) |
| Number of solder pins per potential | 2  |

## Material data

|                             |  |
|-----------------------------|--|
| Color                       | black                                  |
| Insulation material         | Polyphthalamide (PPA GF)               |
| Flammability class per UL94 | V0                                     |
| Clamping spring material    | Chrome nickel spring steel (CrNi)      |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating             | tin-plated                             |
| Weight                      | 4.4 g                                  |

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
 Germantown, WI 53022  
 Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
 Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
 We are always happy to take your call at (262) 255-6222 or 1 800-DIN-RAIL.

## Environmental requirements



|                         |                 |
|-------------------------|-----------------|
| Limit temperature range | -60 ... +105 °C |
|-------------------------|-----------------|

## Commercial data


|                       |               |
|-----------------------|---------------|
| PU (SPU)              | 96 Stück      |
| Packaging type        | BOX           |
| Country of origin     | CH            |
| GTIN                  | 4055144089318 |
| Customs tariff number | 85369010000   |

## Approvals / Certificates

### Country specific Approvals

| Logo   | Approval                                     | Additional Approval Text | Certificate name |
|--|--|--------------------------|------------------|
|  | <b>CB</b><br>DEKRA Certification B.V.        | IEC 60947-7-4            | NL-74022         |
|   | <b>CSA</b><br>DEKRA Certification B.V.       | C22.2                    | 80060692         |
|  | <b>KEMA/KEUR</b><br>DEKRA Certification B.V. | EN 60947-7-4             | 71-<br>119449    |

### UL-Approvals

| Logo   | Approval                                    | Additional Approval Text | Certificate name |
|--|---|--------------------------|------------------|
|  | <b>UL</b><br>Underwriters Laboratories Inc. | UL 1059                  | E45172           |

## Optional accessories

### Ferrules

| Ferrule |   |  |
|---------|---|--|
|         | <b>Item no.: 216-101</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored | <a href="http://www.wago.com/216-101">www.wago.com/216-101</a> |

Subject to changes. Please also observe the further product documentation!



|   |   |  |
|---|---|--|
|    | <b>Item no.: 216-104</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated; silver-colored   | <a href="http://www.wago.com/216-104">www.wago.com/216-104</a> |
|    | <b>Item no.: 216-102</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated; silver-colored  | <a href="http://www.wago.com/216-102">www.wago.com/216-102</a> |
|    | <b>Item no.: 216-103</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated   | <a href="http://www.wago.com/216-103">www.wago.com/216-103</a> |
|    | <b>Item no.: 216-142</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                | <a href="http://www.wago.com/216-142">www.wago.com/216-142</a> |
|    | <b>Item no.: 216-132</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated  | <a href="http://www.wago.com/216-132">www.wago.com/216-132</a> |
|    | <b>Item no.: 216-121</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored   | <a href="http://www.wago.com/216-121">www.wago.com/216-121</a> |
|    | <b>Item no.: 216-143</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                   | <a href="http://www.wago.com/216-143">www.wago.com/216-143</a> |
|    | <b>Item no.: 216-131</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated; silver-colored  | <a href="http://www.wago.com/216-131">www.wago.com/216-131</a> |
|    | <b>Item no.: 216-141</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92                 | <a href="http://www.wago.com/216-141">www.wago.com/216-141</a> |
|  | <b>Item no.: 216-152</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated  | <a href="http://www.wago.com/216-152">www.wago.com/216-152</a> |
|  | <b>Item no.: 216-202</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray  | <a href="http://www.wago.com/216-202">www.wago.com/216-202</a> |
|  | <b>Item no.: 216-151</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated  | <a href="http://www.wago.com/216-151">www.wago.com/216-151</a> |
|  | <b>Item no.: 216-144</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored | <a href="http://www.wago.com/216-144">www.wago.com/216-144</a> |
|  | <b>Item no.: 216-201</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; white  | <a href="http://www.wago.com/216-201">www.wago.com/216-201</a> |
|  | <b>Item no.: 216-241</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white            | <a href="http://www.wago.com/216-241">www.wago.com/216-241</a> |
|  | <b>Item no.: 216-242</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray            | <a href="http://www.wago.com/216-242">www.wago.com/216-242</a> |
|  | <b>Item no.: 216-301</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow  | <a href="http://www.wago.com/216-301">www.wago.com/216-301</a> |
|  | <b>Item no.: 216-302</b>  |  |



Subject to changes. Please also observe the further product documentation!

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; green

[www.wago.com/216-302](http://www.wago.com/216-302)


### Testing accessories

#### Testing accessories

|  |  |  |
|--|--|--|
|  | <b>Item no.: 735-500</b><br>Test pin; 1 mm Ø; with solder connection for test wire | <a href="http://www.wago.com/735-500">www.wago.com/735-500</a> |
|  | <b>Item no.: 859-500</b><br>Test pin; 1 mm Ø; with solder connection for test wire | <a href="http://www.wago.com/859-500">www.wago.com/859-500</a> |

### Tools

#### Operating tool

|  |   |  |
|--|---|--|
|  | <b>Item no.: 210-719</b><br>Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft | <a href="http://www.wago.com/210-719">www.wago.com/210-719</a> |
|--|---|--|

## Downloads

### Documentation

#### Additional Information

|                        |             |                 |          |
|------------------------|-------------|-----------------|----------|
| Technical explanations | Apr 3, 2019 | pdf<br>2.0 MB   | Download |
| THR Soldering Process  |             | pdf<br>548.2 kB | Download |

### CAD files

#### CAD data

|                        |  |     |          |
|------------------------|--|-----|----------|
| 2D/3D Models 2086-1109 |  | URL | Download |
|------------------------|--|-----|----------|

#### CAE data

|                        |  |     |          |
|------------------------|--|-----|----------|
| ZUKEN Portal 2086-1109 |  | URL | Download |
|------------------------|--|-----|----------|

## Environmental Product Compliance

### Compliance Search

|  |  |     |          |
|--|--|-----|----------|
| Environmental Product Compliance 2086-1109<br>THR PCB terminal block; push-button; 1.5 mm <sup>2</sup> ; Pin spacing 3.5 mm; 9-pole; Push-in CAGE CLAMP®; 1,50 mm <sup>2</sup> ; black |  | URL | Download |
|--|--|-----|----------|

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at (262) 255-6222 or 1 800-DIN-RAIL.

## Installation Notes

### Conductor termination



Inserting solid conductor via push-in termination.

### Conductor removal



Removing fine-stranded conductors via push-buttons.

### Conductor termination



Inserting and removing fine-stranded conductors via push-buttons.

Subject to changes. Please also observe the further product documentation!



### Testing



Testing via 1 mm Ø test pin.

Touch contact with current bar.

### Marking



Pole marking via direct marking  
perpendicular to conductor entry.

Subject to changes. Please also observe the further product documentation!

WAGO Corporation  
Germantown, WI 53022  
Phone: 1-800-DIN-RAIL (346-7245) | Fax: (262) 255-6222  
Email: [info.us@wago.com](mailto:info.us@wago.com) | Web: [www.wago.us](http://www.wago.us)

Do you have any questions about our products?  
We are always happy to take your call at (262) 255-6222 or 1 800-DIN-RAIL.